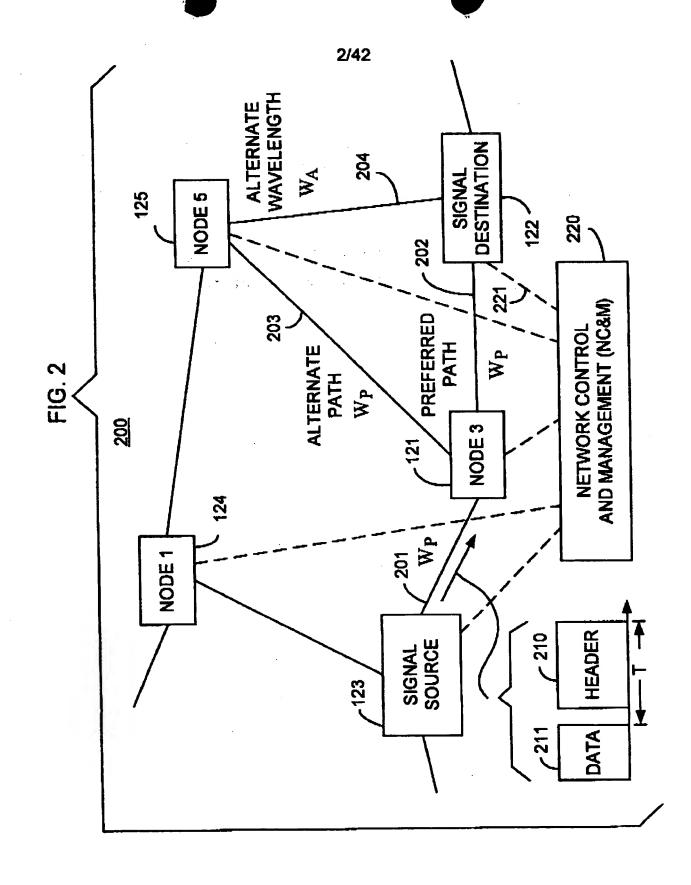


FIG. 1

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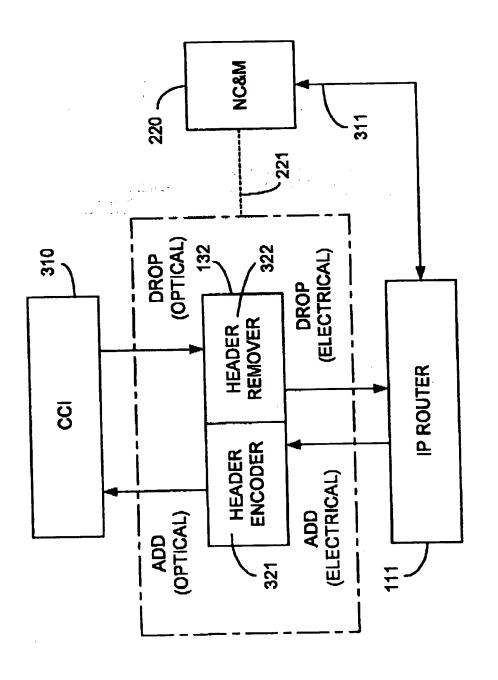


FIG. 3

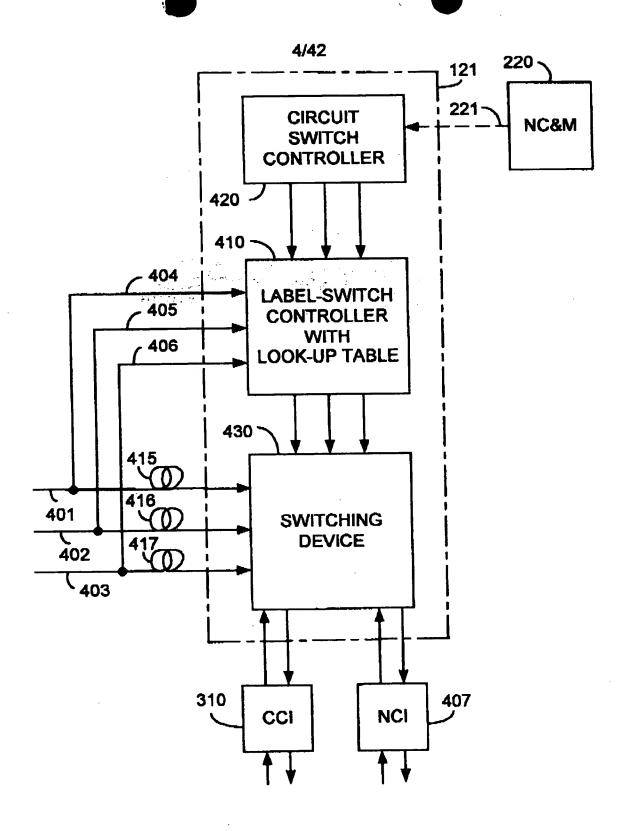
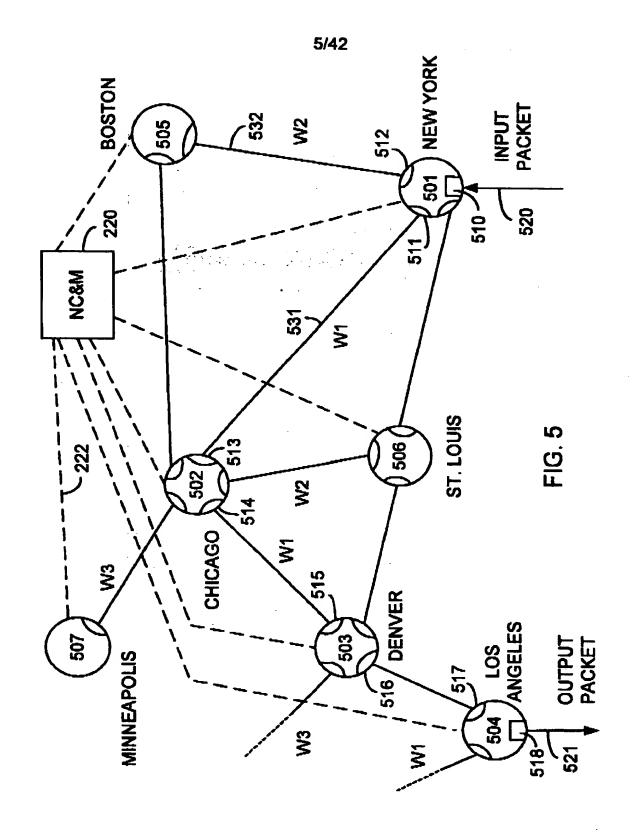


FIG. 4



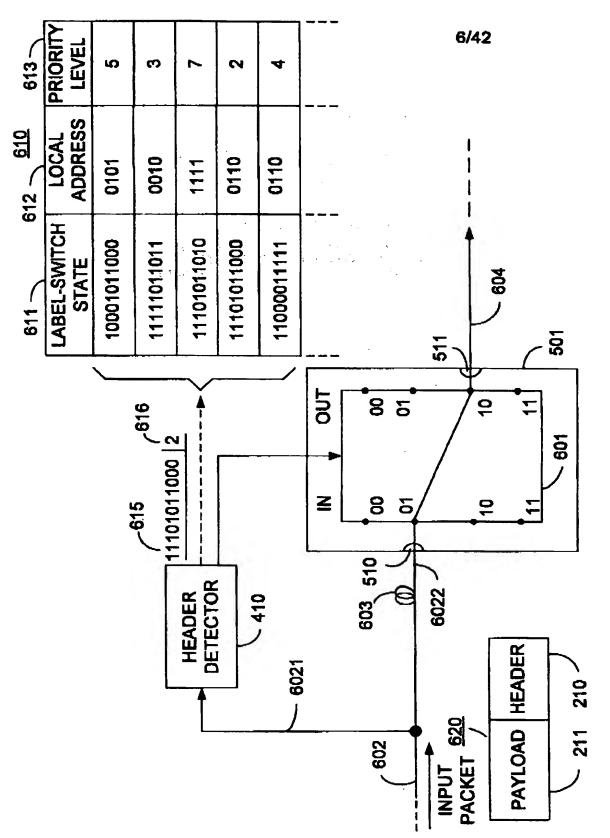


FIG. 6

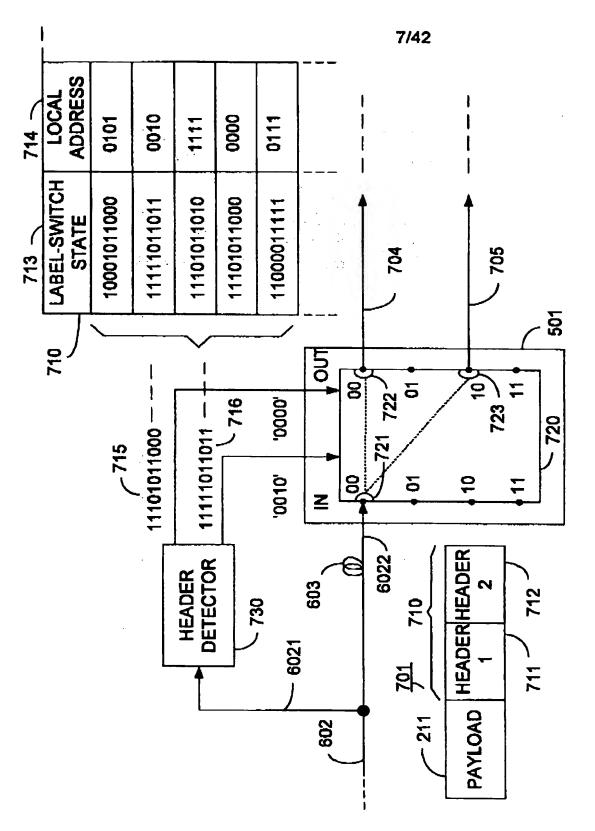
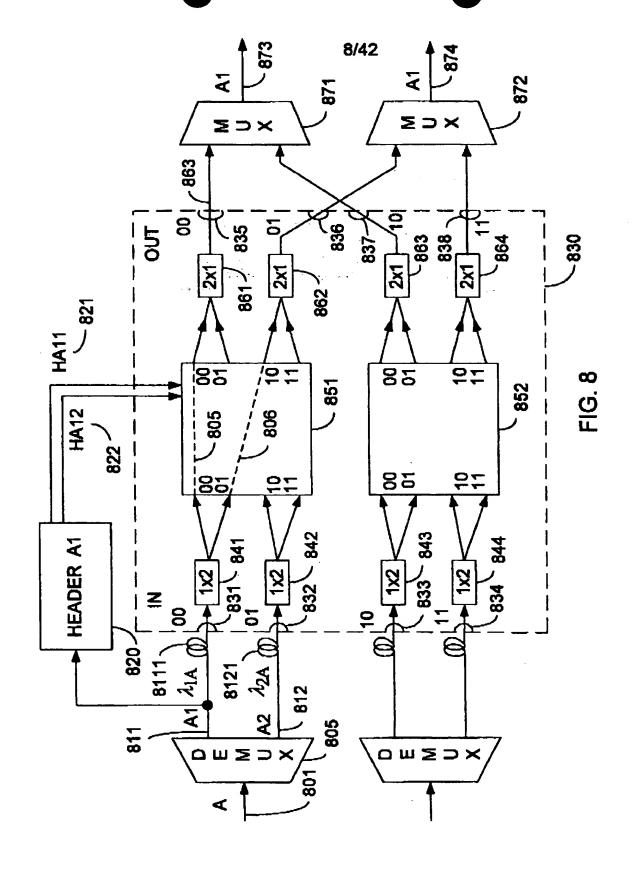
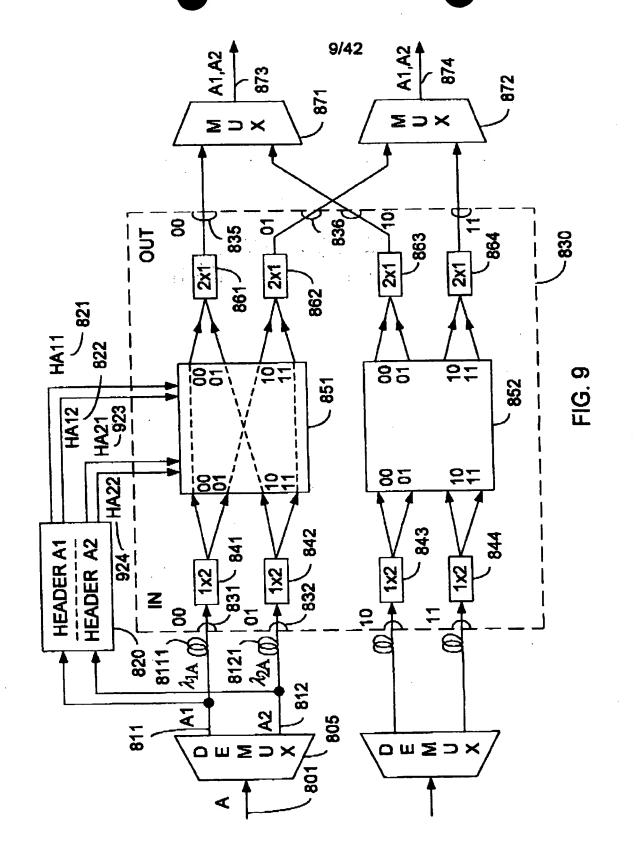
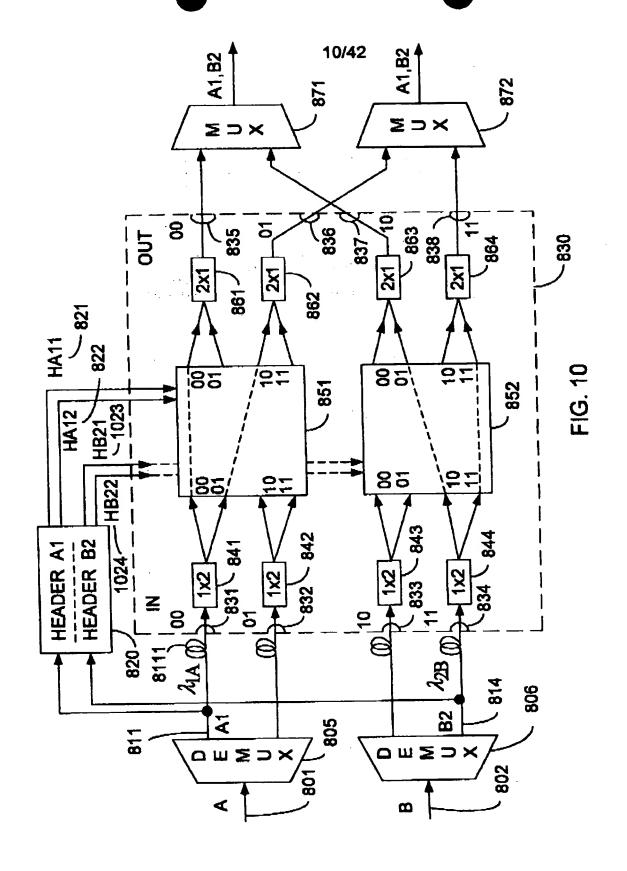


FIG. 7







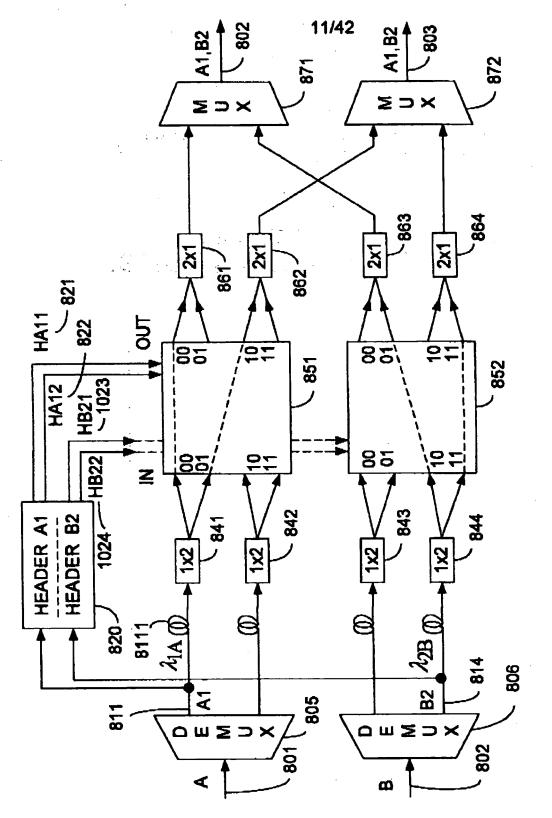
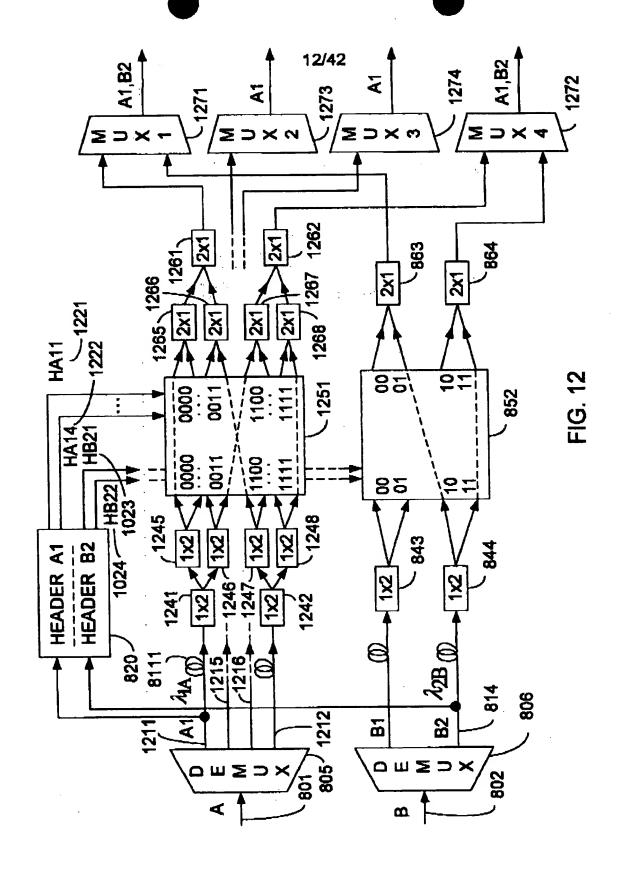
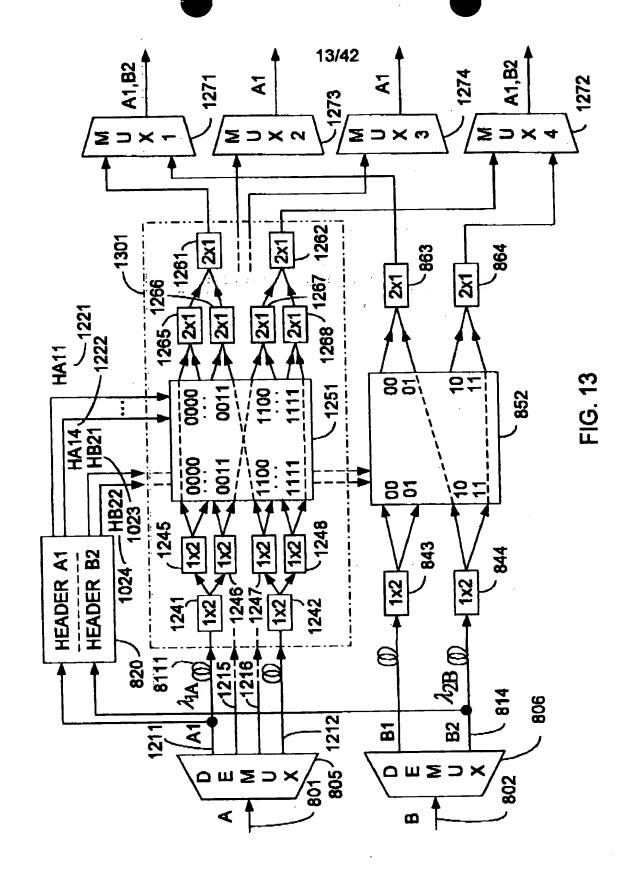


FIG. 11





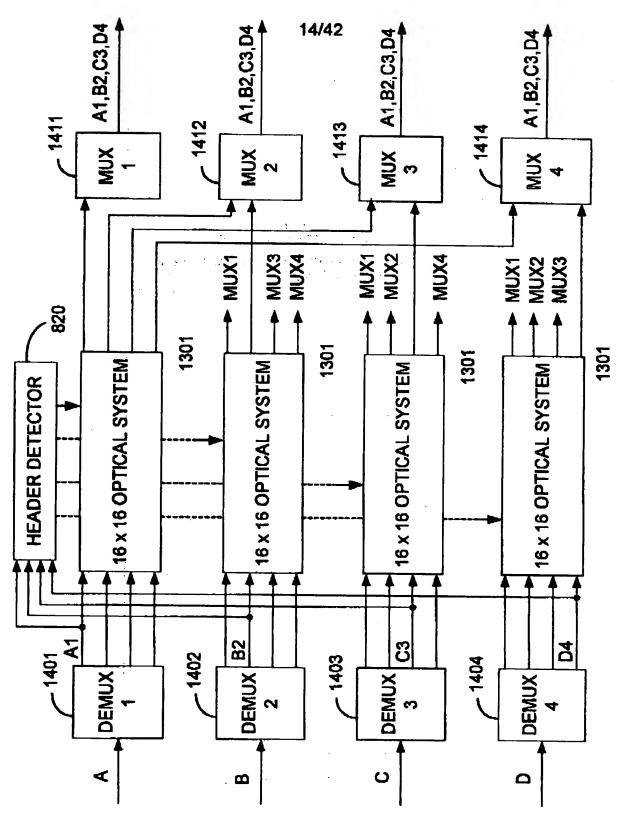
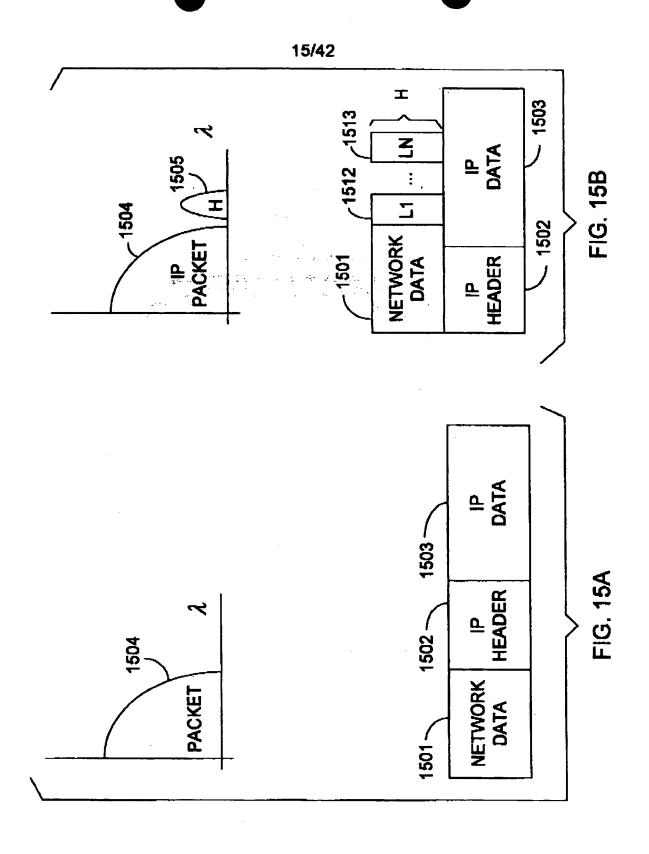
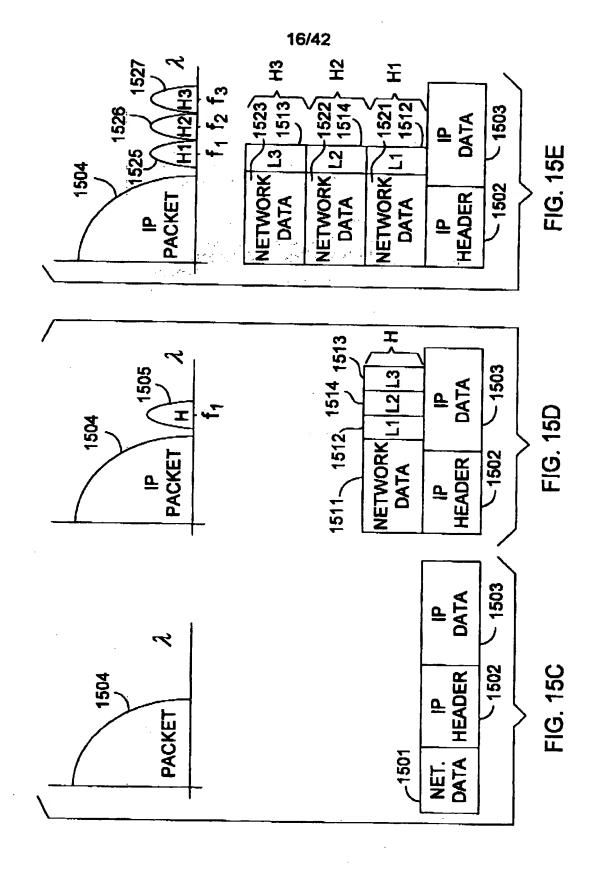


FIG. 14





17/42 1600 FIG. 16 1605 GENERATE PACKETS ELECTRONICALLY GENERATE OPTICAL-SWITCHING LABELS 1610 FOR MULTICAST ROUTING 1615 FORM HEADER FROM OPTICAL LABELS EMBED HEADER IN SAME WAVELENGTH AS 1620 DATA PAYLOAD AT AN INPUT NODE OF WDM **NETWORK TO FORM AN OPTICAL SIGNAL WHEREIN** THE HEADER OCCUPIES A FREQUENCY BAND ABOVE THAT OF THE DATA PAYLOAD 1625 PROPAGATE OPTICAL SIGNAL OVER WDM NETWORK READ HEADER TO DETERMINE OPTICAL LABELS FOR 1630 MULTICASTING OPTICAL SIGNAL AT NODES IN THE OPTICAL NETWORK PROCESS HEADER AT EACH NODE TO SUPPLY 1635 APPROPRIATE HEADER TO DATA PAYLOAD AT EACH NODE IN THE WDM NETWORK AT DESTINATION NODES FOR MULTICAST DATA 1640 PAYLOAD, DETECT DATA PAYLOAD BY CONVERTING THE OPTICAL SIGNAL TO A CORRESPONDING ELECTRICAL SIGNAL REPRESENTATIVE OF THE INPUT PACKETS

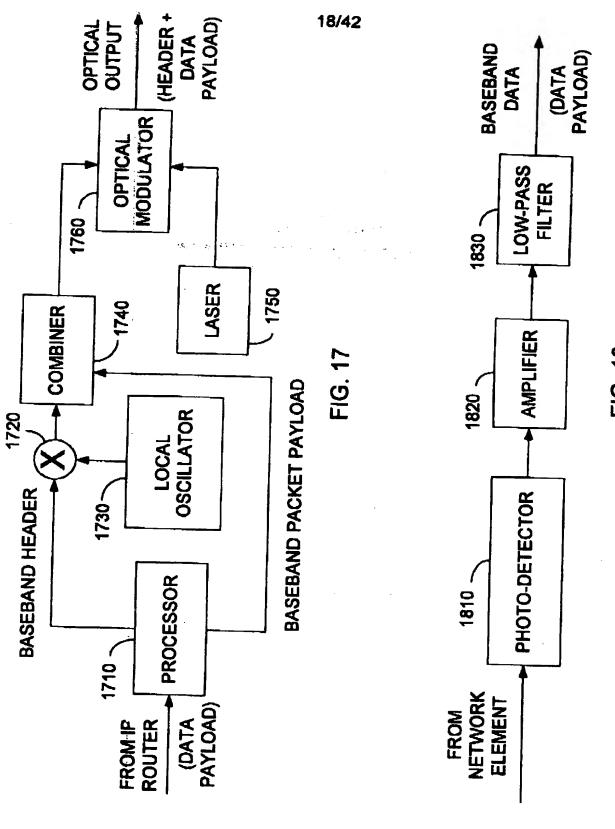
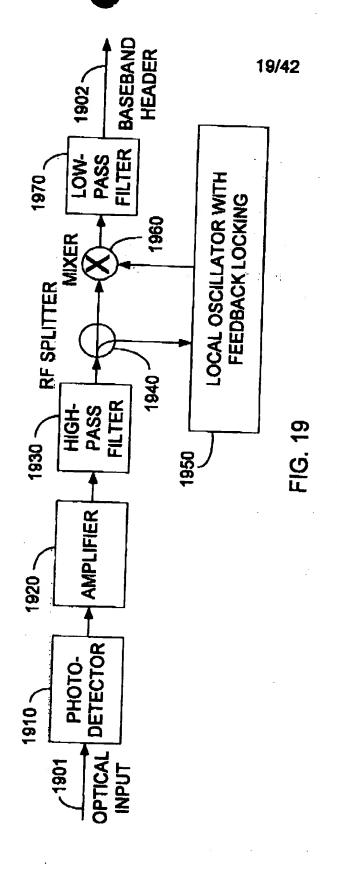
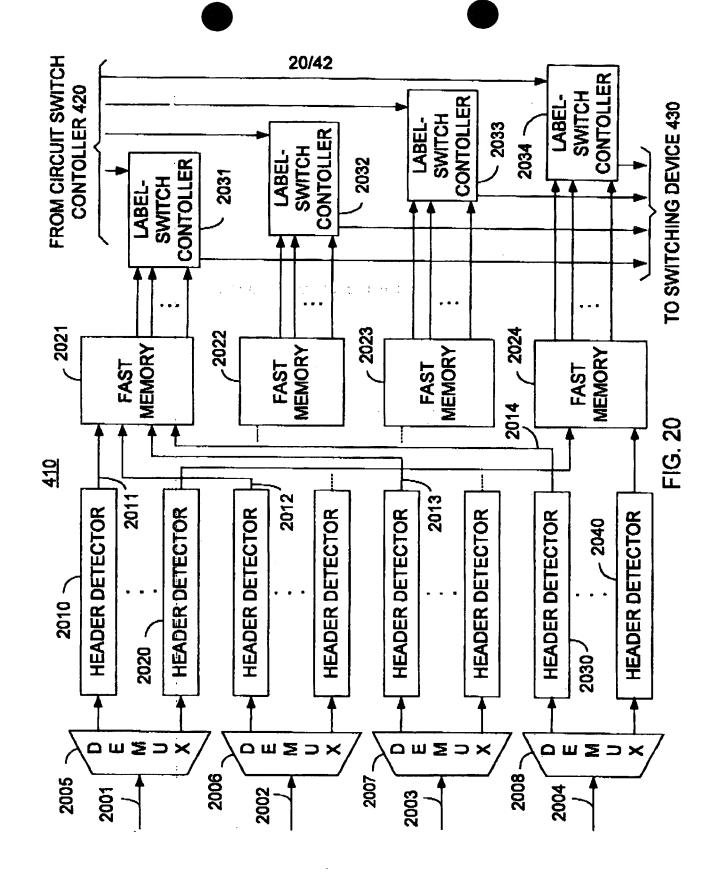
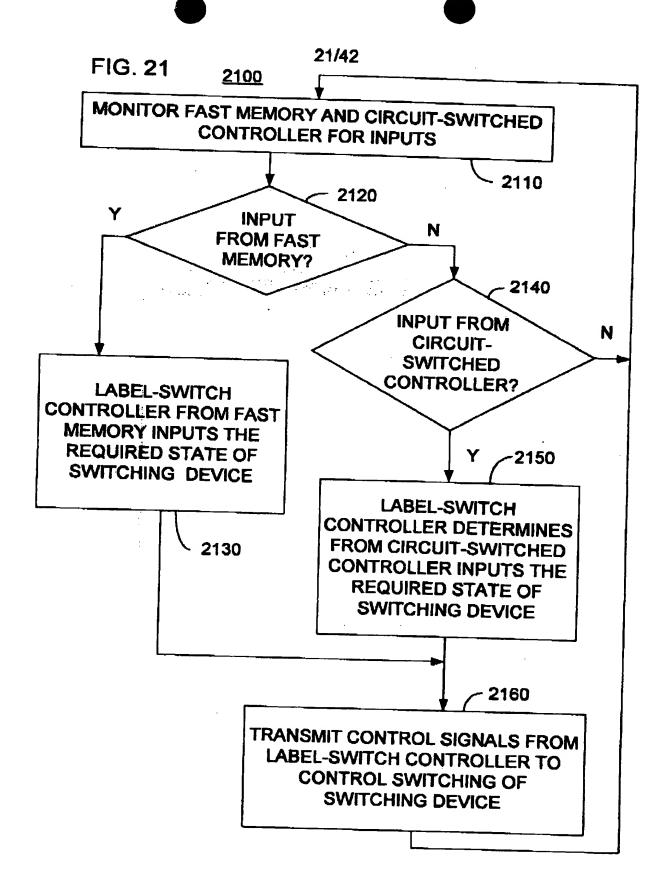
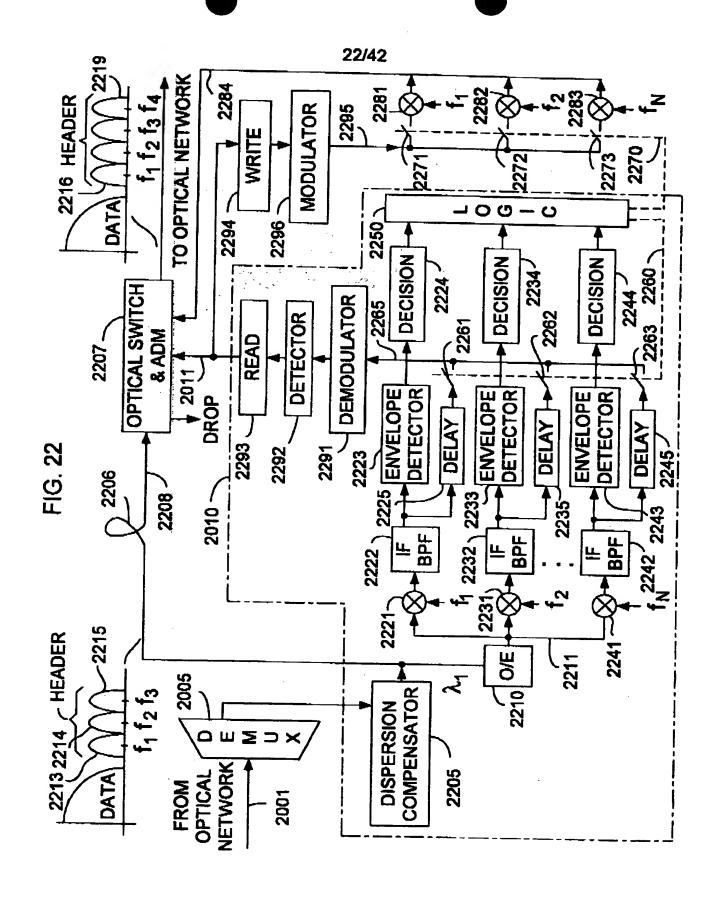


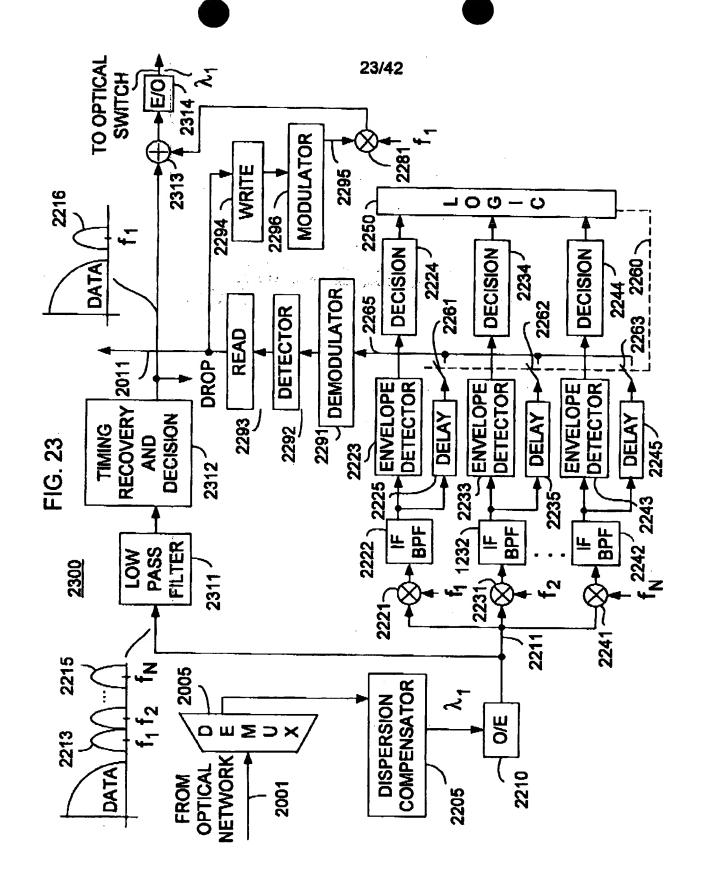
FIG. 18



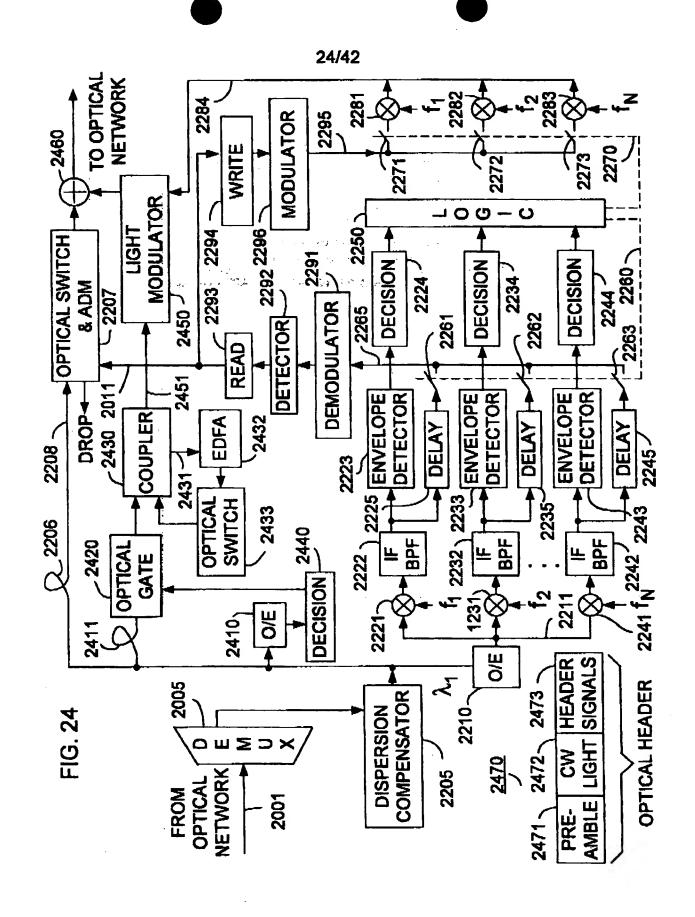


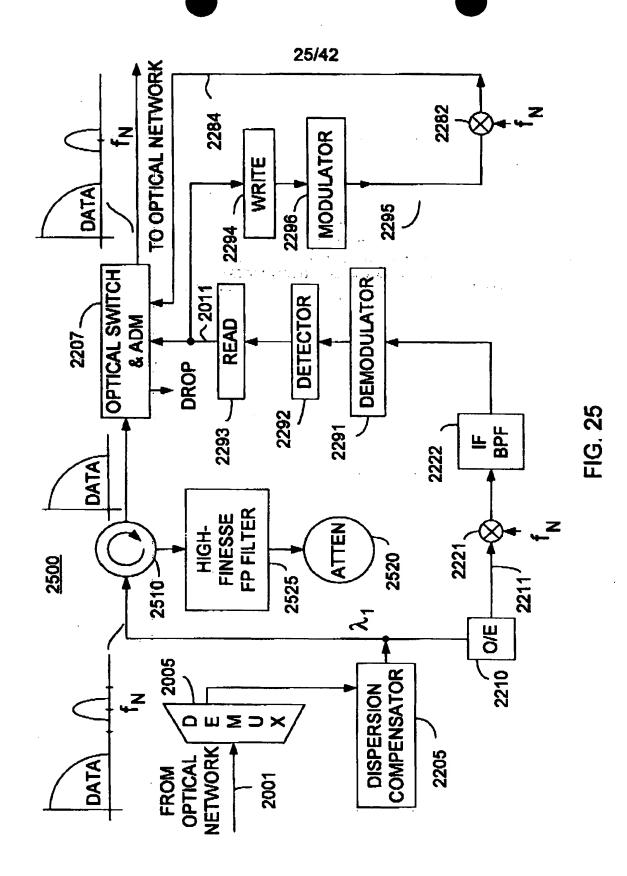






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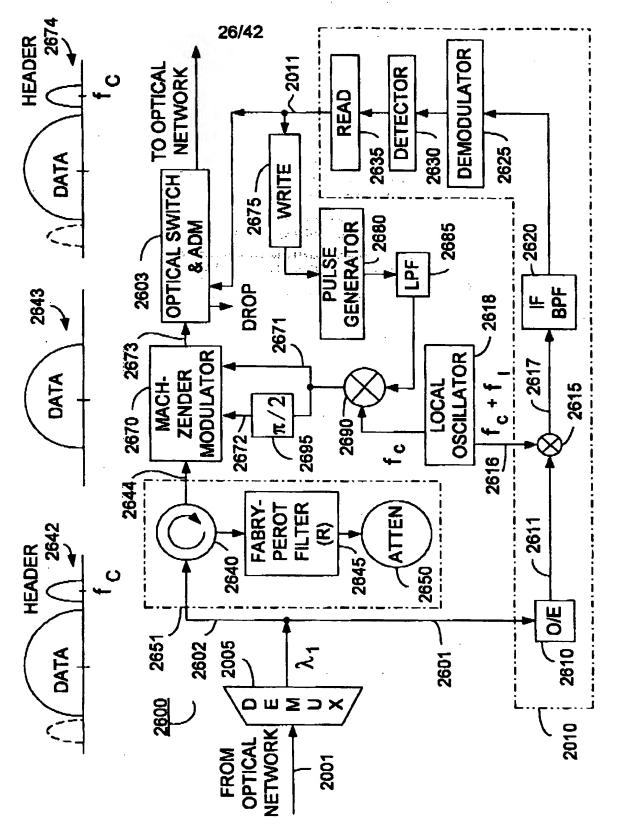


FIG. 26

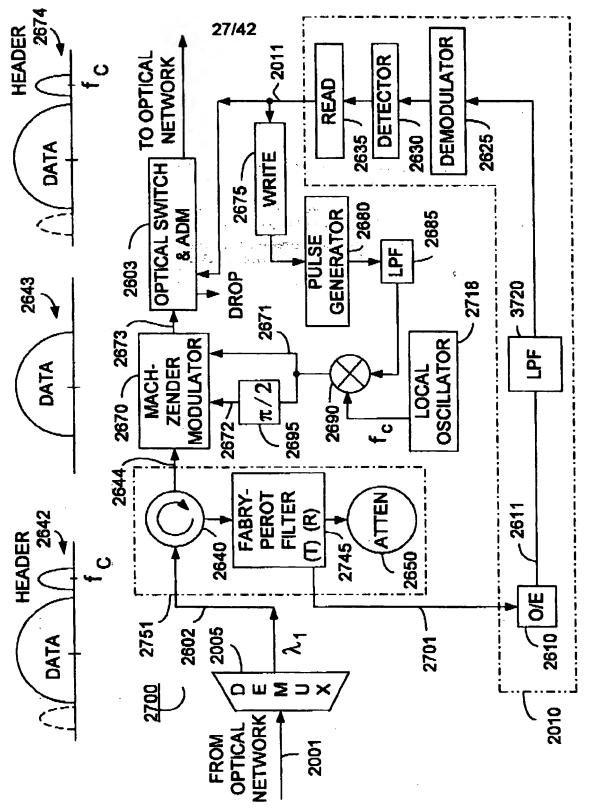
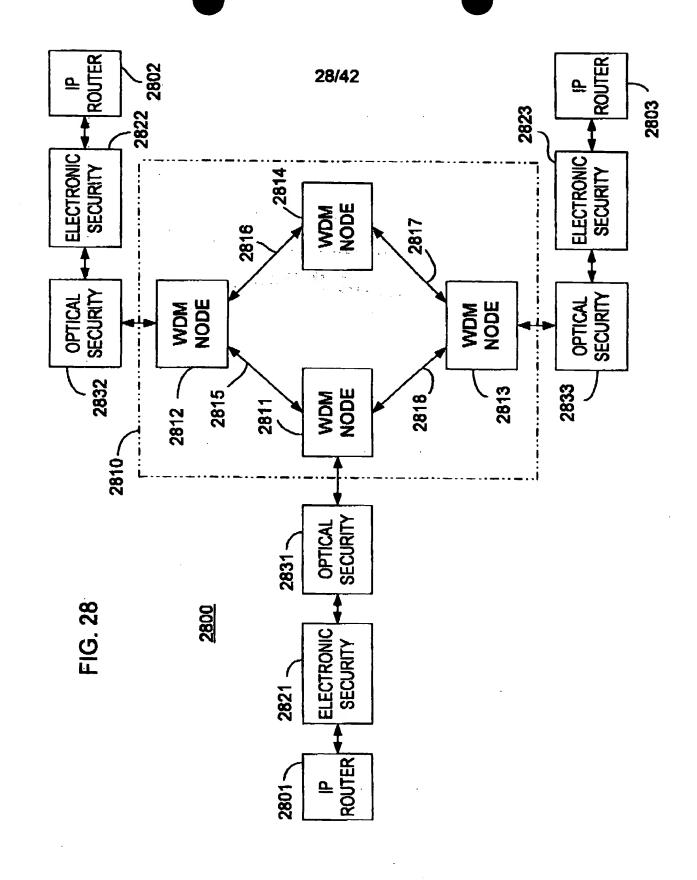


FIG. 27



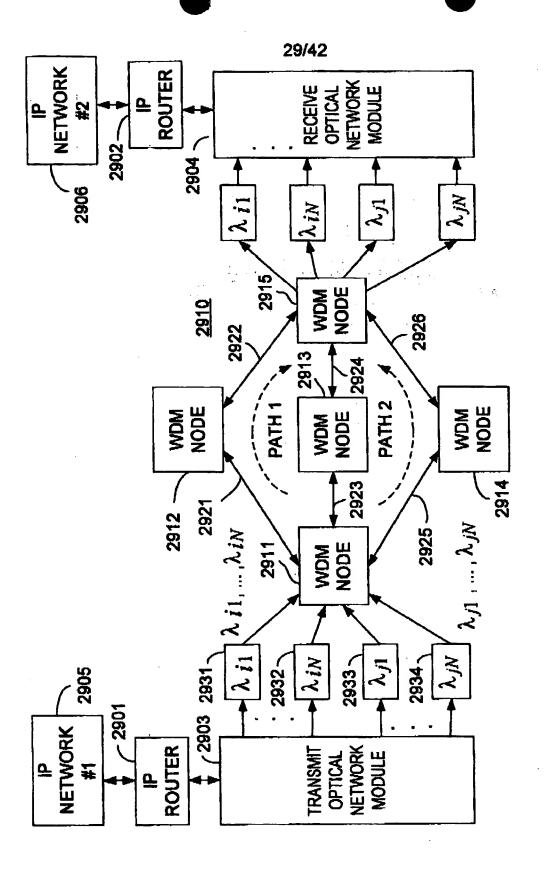
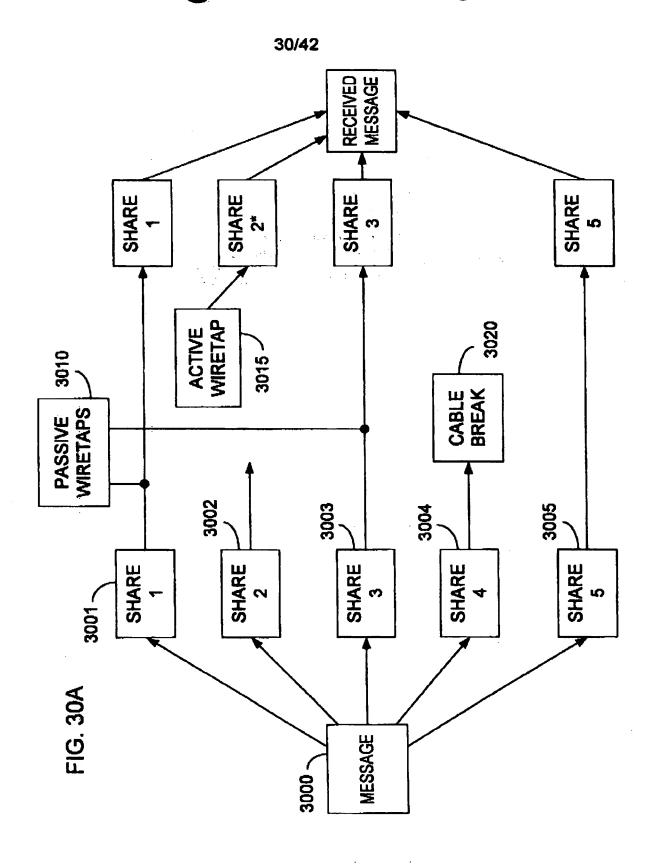
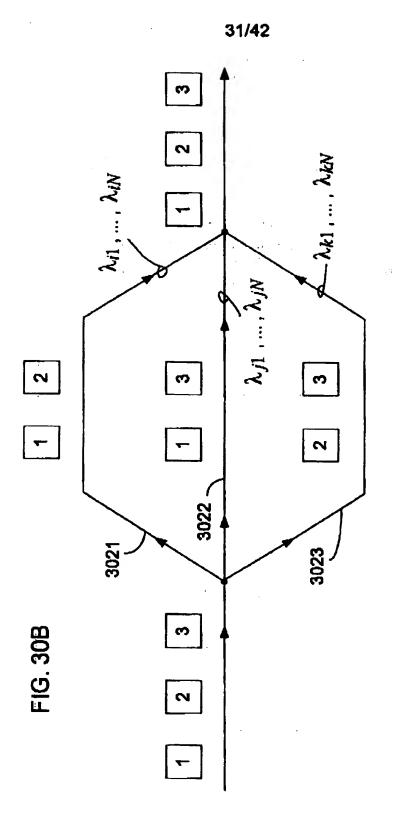


FIG. 29





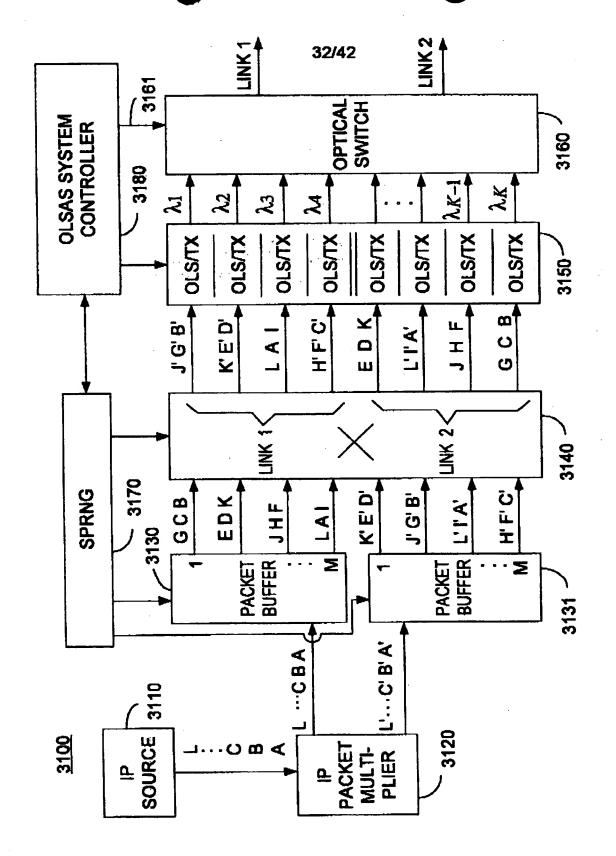
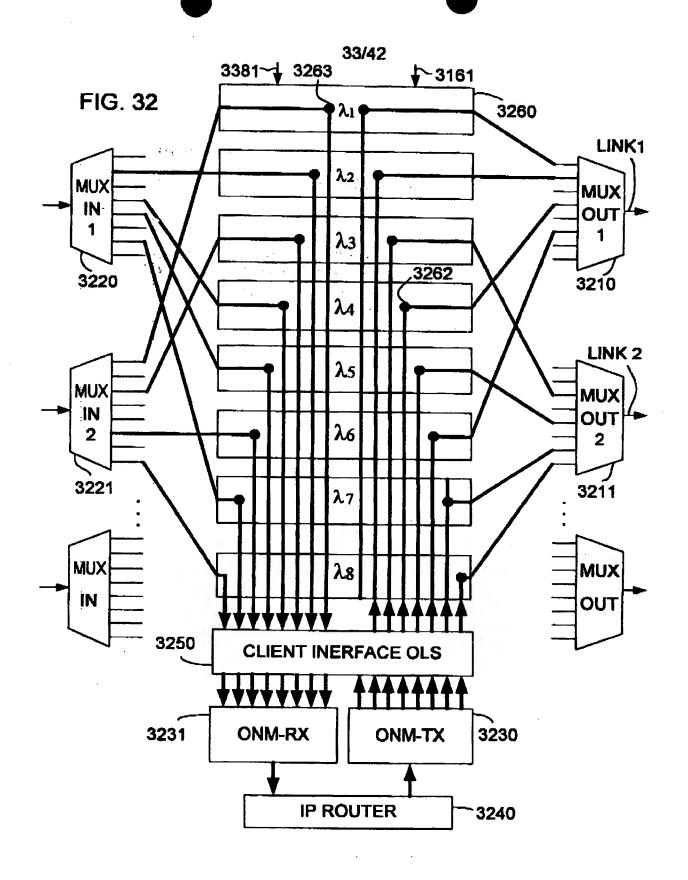


FIG. 31



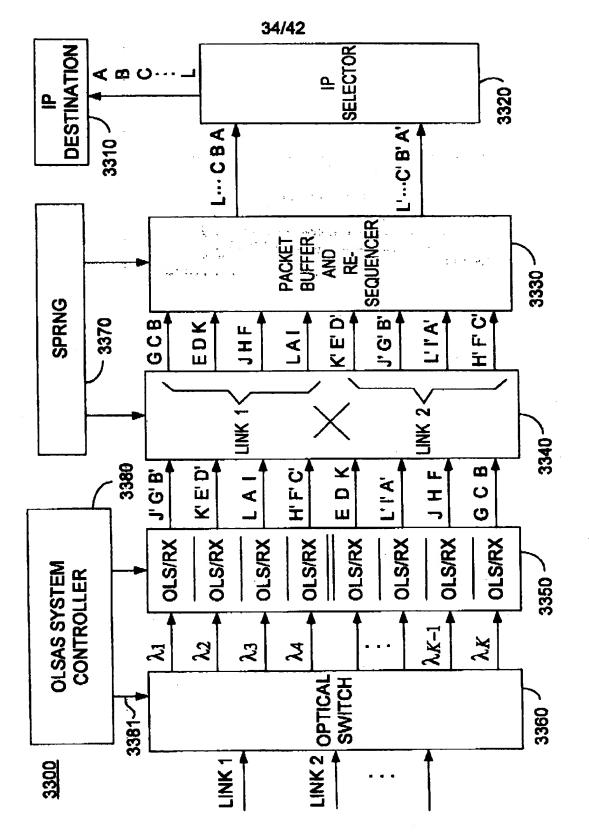
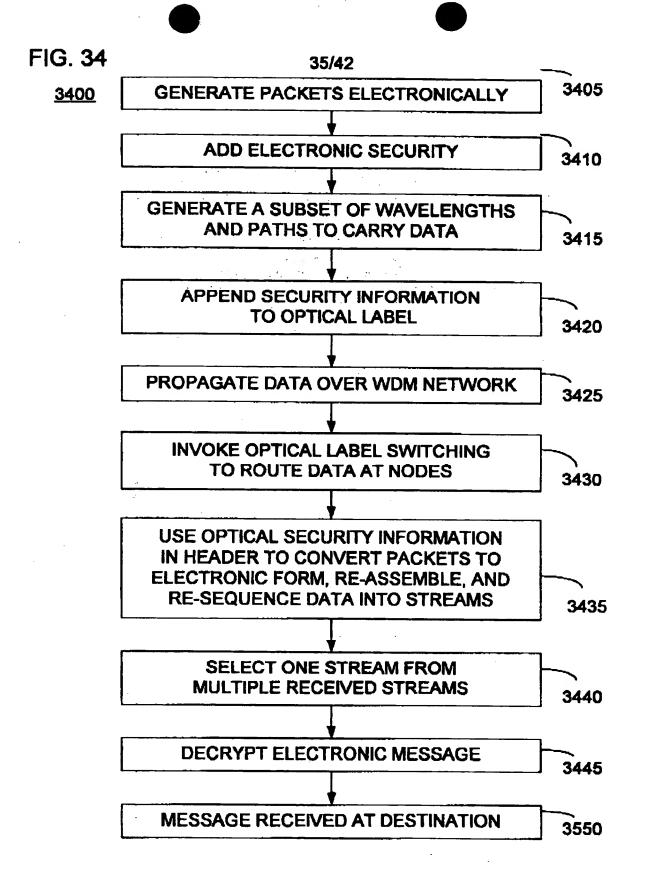
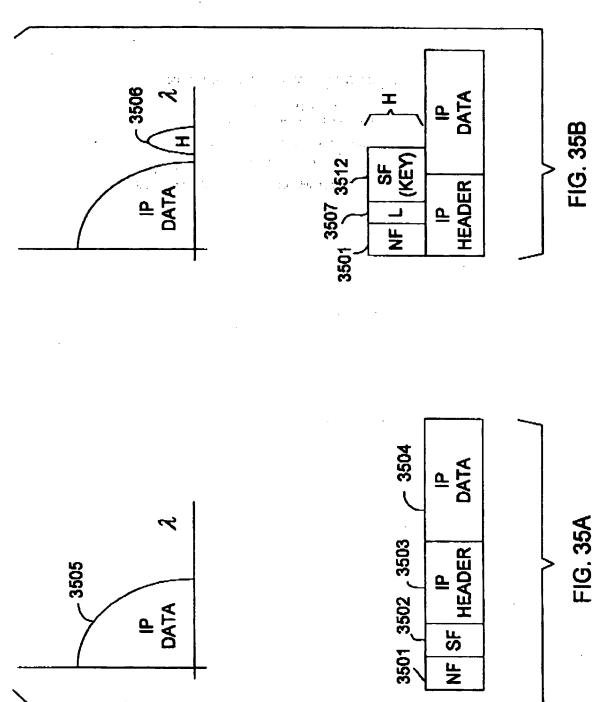


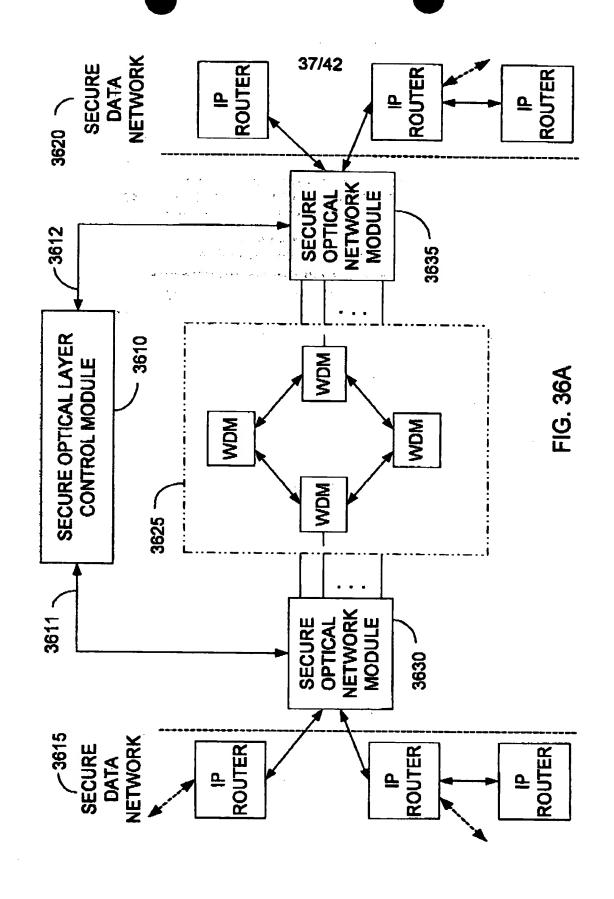
FIG. 33



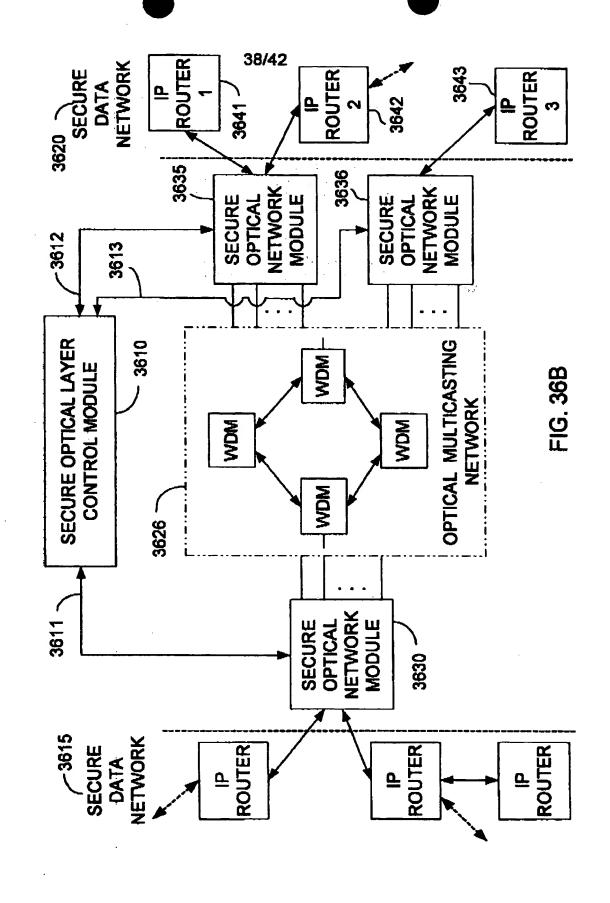
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36/42



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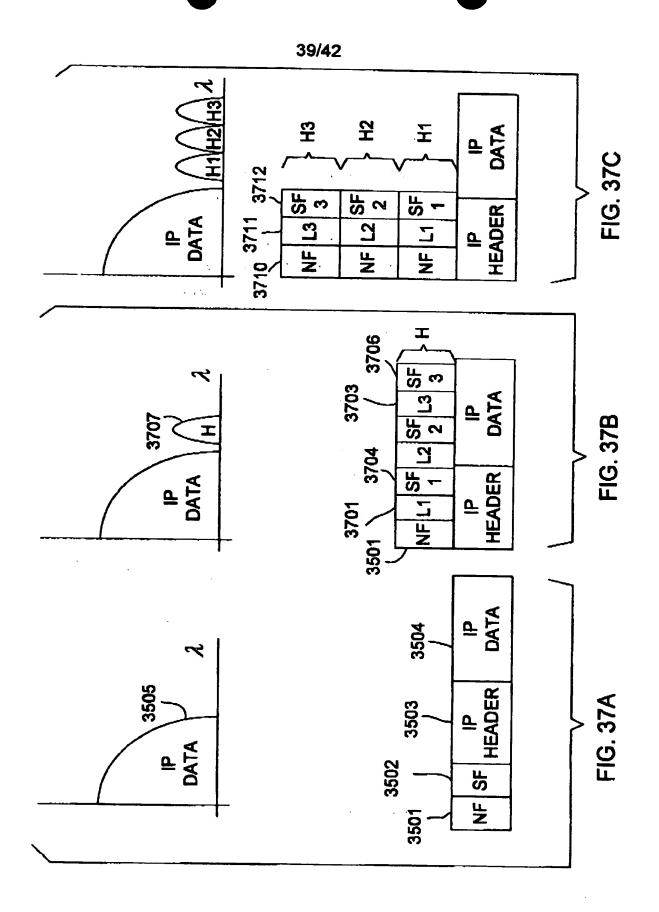
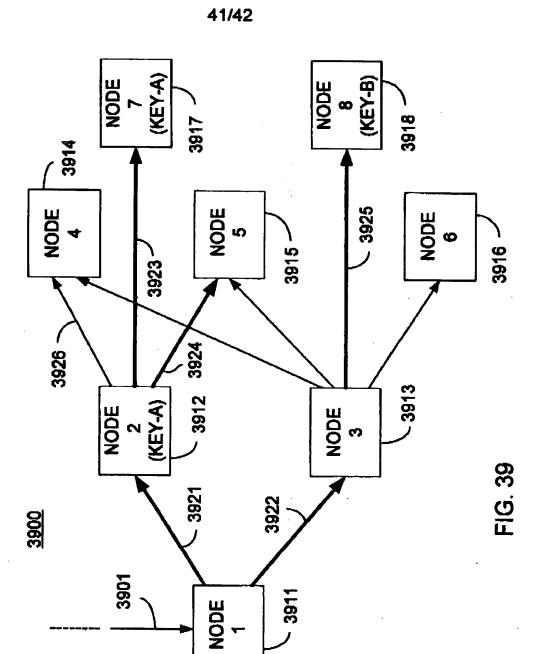
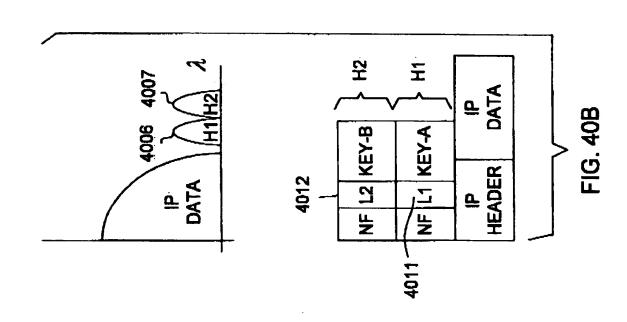


FIG. 38 40/42 GENERATE PACKETS ELECTRONICALLY 3800 3805 ADD ELECTRONIC SECURITY 3810 GENERATE A SUBSET OF WAVELENGTHS AND PATHS TO CARRY DATA PAYLOAD 3815 ADD SECURITY INFORMATION TO HEAER 3820 ADD MULTICAST INFORMATION TO HEADER TO PROPAGATE DATA PAYLOAD OVER WDM NETWORK 3825 INVOKE OPTICAL LABEL SWITCHING TO ROUTE DATA THROUGH NODES 3830 AT EACH DESTINATION NODE, USE OPTICAL **SECURITY INFORMATION** IN HEADER TO CONVERT PACKETS TO ELECTRONIC FORM, RE-ASSEMBLE, AND **RE-SEQUENCE DATA INTO STREAMS** 3835 SELECT ONE STREAM FROM **MULTIPLE RECEIVED STREAMS** 3840 **DECRYPT ELECTRONIC MESSAGE** 3845 MESSAGE RECEIVED AT EACH DESTINATION 3850





42/42

